

Fall 2018

DD 275-001: History of Games

Hanna Kum-Biocca

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History of Games



Instructor	Dr. Hannah Kum-Biocca / Assistant Professor of Digital Design hkbiocca@njit.edu / Colton 333
Time	Tuesday 8:30 AM – 11:20 AM
Location	West 249 / The Animation Lab (236H)
Office Hours	Tuesday 3:00 – 4:00 or By appointment via email.
Prerequisites	AD 111, AD 112 and AD 162 or ARCH 163, ARCH 263 and ARCH251

COURSE DESCRIPTION

A guided exploration through the world of games. Students will experiment, play, and analyze various aspects of games - from early traditional games to current generation electronically-mediated games; from individual games to collaborative online games. Game types will be analyzed with particular attention paid to the virtual environments in which these games take place. The expressive and persuasive aspects of games will also be explored. Students will learn underlying principles behind various game development technologies from traditional to digital format. Assignments will ask students to analyze the structure of various games and prepare them for creative final projects. The latter half of the semester will be focused mainly on individual student research toward a creative final project.

Course Objectives

- To gain perspectives and understanding about the history of both traditional and non-traditional (digital) games.
- Provide exposure to principles of game structures including concepts, such as an abstract strategy game, game tree, and state space, through simple game examples.
- Provide an opportunity to explore underlying concepts, technologies, and languages of contemporary video game productions.
- To gain an understanding of available game related digital environments not only from a stand point of a game player but also from that of a game maker.
- To provide an opportunity to develop the ability to clearly present a project to others.

ACADEMIC INTEGRITY

Honesty is of paramount importance and students are expected to hold the highest standards of academic integrity and comply with the University Code on Academic Integrity (which may be downloaded from: <https://www.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf>) All students are responsible for upholding the integrity of NJIT and must bring violations of the policy to the Office of the Dean of Students. To be clear, do your own work (except when group work is assigned), cite sources properly when writing or presenting research, and comply with requirements for examinations, quizzes, and projects.

ASSIGNMENTS

Individual/Team projects and assignments will be graded and the overall semester grade will be determined by a combined average, with each project receiving a weighted value roughly in proportion to the time allotted for it. Although the proportions may be adjusted – and additional or modified assignments may be inserted, the *preliminary* plan for distribution is as follows:

(Notes: There will be assigned readings. Each student will be expected to read the material for each class and participate in the discussion. [Kepler4 Posting](#) is also required. *Please also see below section for the **attendance requirement**.)

Assignments

1. Game Analysis 1	Traditional Games	5%
2. Future Structure for Living	3-D Design & Modeling	10%
3. Flat to Form (Digital Fabrication)	3-D Design & Laser Cutting	15%
4. Learning from Nature	Photogrammetry & 3-D Printing	10%
5. Game Analysis 2	State Diagram using NetLogo	5%
6. Environment and Simulation	Game Engine Project	10%
7. Video Game Review	2 game reviews w/ Interactive presentations	5%
Final Project	Creative Digital Design Project: 10/16 ~ 12/11	40%
Class Participation	* see the section below for the attendance requirement.	5%*

GRADING

NJIT uses the following grades:

- A/4.0 (superior);
- B+/3.5 (excellent);
- B/3.0 (very good);
- C+/2.5 (good);
- C/2.0 (acceptable);
- D/1.0 (minimum);
- F/0.0 (inadequate).

ALL students (regardless of “home program” at NJIT) enrolled for classes in the School of Art + Design also have an attendance requirement overlaid on the grading criteria. *No more than three unexcused absences are permitted without a grade reduction. Each unexcused absence above three (starting with the fourth) will

result in a full grade reduction for the semester. In other words, four absences would result in a maximum grade of B (assuming everything done is of “A” quality), five absences would result in a maximum grade of “C”, six in a maximum grade of “D”, etc. Students do NOT receive extensions for submission of work due to any unexcused absences. Acceptance of late work is at the discretion of the individual instructor. Absences for illness in order to be excused MUST be accompanied by documentation from professional medical personnel who are NOT members of your family. Since religious holidays are known in advance, students who expect to be absent due to religious holidays must notify their instructor by the second week of class.

MATERIALS

Throughout the term, there will be a number of projects requiring the use of traditional media. For example, one expects to cut various materials and then glue to a backing material so a Xacto knife, straight edge for cutting, and various adhesives will be required. Based on the design of your project, you will need materials, such as Plexiglas, wood, form boards, and so on, to fabricate your physical game board project. The instructor will suggest certain materials at the beginning of each assignment.

ACCOMMODATIONS FOR DISABILITIES

NJIT and instructors will endeavor to make any accommodations required and necessary for the success of students with disabilities. However, in order to receive accommodations, disabilities MUST be documented with the NJIT Disability Office AND notification of request for accommodation must be made to the instructor by the second week of class. No accommodations can be granted “after the fact” unless due to a situation (injury/illness/etc.) that occurs or is documented during the semester. In those instances, accommodations will commence upon notification or observation of the disability. If approved for accommodation(s), it is at the discretion of the student whether or not to avail him/herself of these opportunities. Failure to utilize approved accommodations will not be considered when preparing final grades or assessments for the course. Please understand that some accommodations are publicly evident (like extended time on project presentations) and utilization of these accommodations will be seen by other students.

CELL PHONE USE AND MISCELLANEOUS POLICIES

Cell phone use (including texting) is NOT permitted during lectures and presentations at any time! It is a *distraction* that steals the ability to concentrate on students and the presenter. The permission to use cell phones during lab time is strictly and completely at the discretion of the individual section instructor. When permitted, students should go into the corridor to speak. Use of cell phones during periods of student presentations or faculty instruction is not approved at any time.

Lectures may not be recorded without permission of the instructor. Due to the inclusion of copyrighted material/intellectual property within “fair use” provisions, visual content of the lectures may not, under any circumstances, be recorded.

Food and drink are permitted in the lecture hall but NOT in the labs. **Do not eat or drink in any computer lab. Do not even bring in food or drink!**

THE ART+DESIGN STUDENT GUIDEBOOK

(If there is the Updated version, you may be download on Moodle during the Course)

Please also see it from [here](#). This guidebook provides an overview of NJIT academic policies, details policies and protocols particular to our School, and offers additional information to help you succeed in the School of Art+Design.

BIBLIOGRAPHY

Suggested Books / Reference Books

- Persuasive games : the expressive power of videogames / Ian Bogost. 2007 GV1469.34.S52 B64 2007
- Book of games : strategy, tactics & history / Jack Botermans ; [translated from the Spanish by Edgar Loy Fankbonner]. 2008 GV1229 .B53 2008
- Supercade : a visual history of the videogame age, 1971-1984 / text, design, and production by Van Burnham ; contributors, Ralph H. Baer ... [et al.]. 2003 GV1469.3 .B87 2003
- Games we played : the golden age of board & table games / Margaret K. Hofer ; with a foreword by Kenneth T. Jackson. 1965- 2003 GV1317 .H64 2003
- 100 videogames / James Newman. (James A.) 2007 GV1469.3 .N47 2007
- Nielsen, Simon Egenfeldt with Jonas Heide Smith and Susana Pajares Tosca. Understanding Videogames: The Essential Introduction. (New York: Routledge/Taylor & Francis Group, 2008))
- Play between worlds : exploring online game culture / T.L. Taylor. 2006 GV1469.17.S63 T38 2006
- Game design course : principles, practice, and techniques--the ultimate guide for the aspiring game designer / Jim Thompson, Barnaby Berbank-Green, Nic Cusworth. QA76.76.C672 T49 2007
- Video game explosion : a history from PONG to Playstation and beyond / edited by Mark J.P. Wolf. 2008 GV1469.34.S52 V52 2008

Recommended References for Final Projects

- Realistic architectural visualization with 3ds Max and mental ray, Roger Cusson and Jamie Cardoso. Amsterdam ; Boston : Elsevier/Focal Press, 2007. NA2728 .C87 2007
- Rendering with Mental ray & 3Ds Max, Steen, Joep van der, Amsterdam ; Boston : Elsevier/Focal Press, 2007 T385 .S744 2007
- Gahan, Andrew. 3ds Max Modeling for Games, Second Edition: Insider's Guide to Game Character, Vehicle, and Environment Modeling: Volume I, (Focal Press; 2 edition, 2011)

The following books are available in electronic format and can be accessed via online catalog

- "Creating Games with Unity and Maya: How to Develop Fun and Marketable 3D Games" by Adam Watkins (978-0-240- 81881-8)
- "Digital Sculpting with Mudbox: Essential Tools and Techniques for Artists" by Mike de la Flor and Bridgette Mongeon (978- 0-240-81203-8)
- "3ds Max Modeling for Games/2nd Edition - Volumes 1 and 2" by Andrew Gahan (978-0-240-81582-4 and 978-0-240-81606-7)
- "The Digital Matte Painting Handbook: by David B. Mattingly (978-0-470-92242-2)
- "Getting Started in 3D with Maya: Create a Project from Start to Finish" by Adam Watkins (978-0-240-82042-2) "Introducing Autodesk Maya 2013" by Darius Derakhshani (978-1-118-13056-8)

Digital-tutors

Check out the new Digital Tutors program (Pluralsight), with tutorials on tons of [software](#) and [subjects](#)! Click [here](#) to get to the login page. There are two menu items near the top middle of the screen, Log in and Join New Jersey Institute of Technology Group. Click on "Join New Jersey Institute of Technology Group" and you should see the screen for registration. Registration will only work with your NJIT email address.

Once you're registered you can use the Digital Tutors program for one hour at a time from campus-wide IP ranges only. More Information: <https://archlib.njit.edu/>

COURSE SCHEDULE:

Specific dates including assignment due dates may be adjusted. The preliminary schedule for the semester is as follows:

<p>Week 1 9/4</p>	<p>Introduction Welcome and Introduction to the course by the instructor. We will spend our time briefly introducing ourselves and going over the syllabus.</p>	<p><i>Assigned: Fill out the introduction form and add your images._ Assignment 1</i></p>
<p>Week 2 9/11</p>	<p>Structure of Games Introduction to Game Analysis (Readings will be posted on Moodle: R. Caillois, <i>Man, Play, and Games</i>, p11- 36 and D. Hofstadter, <i>Gödel, Escher, Bach: An Eternal Golden Braid</i>, p29-32)</p> <p>Future Structure for Living (Assignment 2) will be introduced.</p> <p>Your Introductions: You will introduce yourself using “Personal Bio.(Assignment 1)” posted on Moodle. (If necessary, we will spend next few weeks to go over everyone in the class.)</p>	<p><i>Due: Upload Assignment 1 on Moodle</i></p> <p><i>Assigned: Assignment 2</i></p>
<p>Week 3 9/18</p>	<p>Reading Day (The instructor will be away and will be available on-line for questions.)</p>	
<p>Week 4 9/25</p>	<p>Traditional Games: From Dice to Chess Traditional board games will be reviewed. The concept of <i>Abstract Strategy Games</i>.</p> <p>Game Analysis 1 Presentations (10 minutes each) Laser Cut /AutoCAD instructions Development of the Laser Cutting Project (For this assignment, each works individually using laser cutters at 7th floor)</p>	<p><i>Due: Assignment 1 Game Analysis 1 (Presentation)</i></p> <p><i>Assigned: Assign. 3</i></p>
<p>Week 5 10/2</p>	<p>Game Complexity: State Space, Game Trees, State Diagrams, Randomness, Perfect Game (Tic- tac-toe example)</p> <p>Future Structure for Living Presentations (10 minutes each)</p>	<p><i>Due: Assignment 2 Future Structure for Living (3-D Model) (Presentation)</i></p>
<p>Week 6 10/9</p>	<p>History of Computer Chess From Analog to Digital Games Introduction to NetLogo.</p> <p>Introduction to Photogrammetry & 3-D Printing. Introduction to Autodesk ReMake Software</p>	<p><i>Assigned: Assignment 4</i></p>

<p>Week 7 10/16</p>	<p>State Diagrams: Understanding the structure of games (Assignment 5) Introduction and exercises using a multi-agent programmable modeling environment, <i>NetLogo</i>: Creating a game tree using a Termites model example.</p> <p>Laser Cut Project Presentations (3 minutes each)</p> <p>The Final Project will be introduced.</p>	<p><u>Due: Assignment 3</u> <i>Flat to Form: Laser Cut Project</i></p> <p>(Presentation)</p> <p><u>Assigned:</u> Assignment 5 & Final Project</p>
<p>Week 8 10/23</p>	<p>History of Video Games: Hardware Consoles and Software From Pong to 128bit console machines, Console Wars in Japan, Video Game Genres, and in-class discussions</p> <p>Desk Critiques begin (will meet the first half of students: 10~15 minutes each: individually discuss your project with the instructor. You need to bring your work and show progress for all desk critic sessions with the instructor.)</p>	<p><u>Due: Assignment 4</u> <i>Learning from Nature (3-D print)</i></p> <p><u>Due: Bring your sketches and ideas for the final project</u></p>
<p>Week 9 10/30</p>	<p>Game Creation Software Environments Introduction to Game Creation Software: Brief history and demonstrations using Unity3D, UDK, GameMaker, and so on.</p> <p>Desk Critiques (will meet the second half of the students who did not see me last week.)</p>	<p><u>Due: Bring your sketches and ideas for the final project</u></p> <p><u>Assigned:</u> Assignment 6</p>
<p>Week 10 11/6</p>	<p>Mid Review: Present your final project ideas and work in progress using a Power Point Slides (PPT) with some images and scanned sketches of yours. (10 minutes presentation each)</p>	<p><u>Due: Slide Presentation for the mid review</u></p>
<p>Week 11 11/13</p>	<p>Guest Lecture On-line (To be determined (TBD))</p> <p>Individual development of your project (The instructor might be away (TBD))</p>	<p><u>Due: Assignment 5</u> <i>Game Analysis 2 using NetLogo</i></p>
<p>Week 12 11/20</p>	<p>Thursday Class meet/ Thanksgiving Individual development of your project. (Email your progress to the instructor with work-in-progress images attached.)</p>	<p><u>Due: Online Progress Report</u></p>
<p>Week 13 11/27</p>	<p>In class development of final projects Desk Critiques Present your Assignment 6 as well.</p>	<p><u>Due: Assignment 6</u> <i>Environment & Simulation</i></p>
<p>Week 14 12/4</p>	<p>In class development of final projects Desk Critiques (The instructor will review your draft slides in a PPT format.)</p>	<p><u>Due: Draft slide Presentation</u></p> <p><u>Due: Assignment 7</u> <i>Game Review</i></p>

<p>Week 15 12/11</p>	<p>Final Review: Presentations of individual final projects with guest critiques. Wrap up (The last day of the class).</p>	
<p>Final Exam wk.</p>	<p>Tuesday, 12/18 will be the deadline to submit all materials from your final project and any additional material requested by the instructor.</p>	<p><i>Due: Final Submission</i></p>